

(12) INTERNATIONAL APPLICATION PUBLISHED IN ACCORDANCE WITH THE  
INTERNATIONAL PATENT COOPERATION TREATY (PCT)

(19) Worldwide Organization for Intellectual Property  
International Office

(43) International Publication Date  
July 14, 2005 (07/14/2005)

(10) International Publication Number  
PCT WO 2005/064201 A1

(51) International Patent Classification (IPC Class)<sup>7</sup>: F16 H 7/12

(21) International Reference Number: PCT/EP2004/011114

(22) International Application Date:  
October 5, 2004 (10/05/2004)

(25) Language submitted in: German

(26) Publication Language: German

(30) Priority Data:  
203 19 886.7 December 22, 2003 (12/22/2003) DE

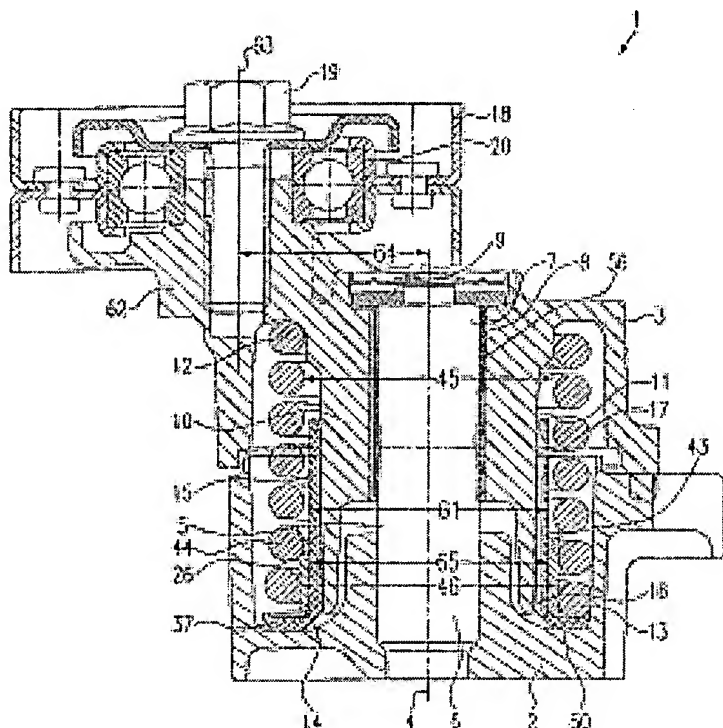
(71) Applicant (for all designated countries with the  
exception of the U.S.): LITENS AUTOMOTIVE GMBH  
[DE/DE]; Altenhasslauer Weg 5-7, 63571 Gelnhausen  
(DE).

(72) Inventor; and  
(75) Inventor/Applicant (for the U.S. only): FISCHER,  
Michael [DE/DE]; Hauptstrasse 32, 97778 Fellen (DE).  
GUHR, Wolfgang [DE/DE]; Im Wagnersgrund 9,  
63584 Gründau, (DE).

(74) Attorney: BERTRAM, Rainer; Grünecker, Kinkeldey,  
Stockmair & Schwanhäusser, Law Firm,  
Maximilianstrasse 58, 80538 Munich (DE).

[continued on the following page]

(54) Title: AUTOMATIC BELT TENSIONER



(57) Abstract: The invention relates to an automatic belt tensioner comprising a basic part that is connected to a tensioning part so as to be rotatable about a common axis of rotation, a helical spring that is joined to the basic part and the tensioning part, and a wrapping bush which is wrapped at least in some areas with a radial enveloping force by means of the helical spring. According to the invention, the material of the wrapping bush contains reinforced plastic in order to ensure that the belt tensioner provides good damping and good cushioning properties if possible during the entire service life thereof while being universally usable and having a simple design.

[continued on the following page]

(81) **Designated Countries** (for any available national type of protection unless otherwise specified): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) **Designated Countries** (for any available regional type of protection unless otherwise specified): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG,

ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published**

- with international search report.

*For explanations of the two-letter codes and other abbreviations please refer to the explanations ("Guidance Notes on Codes and Abbreviations") at the beginning of each regular issue of the PCT Gazette.*

---

### **Abstract**

The invention relates to an automatic belt tensioner comprising a basic part that is connected to a tensioning part so as to be rotatable about a common axis of rotation, a helical spring that is joined to the basic part and the tensioning part, and a wrapping bush which is wrapped at least in some areas with a radial enveloping force by means of the helical spring. According to the invention, the material of the wrapping bush contains reinforced plastic in order to ensure that the belt tensioner provides good damping and good cushioning properties if possible during the entire service life thereof while being universally usable and having a simple design.